

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** ( Not for submission under 37 CFR 1.99)

Application Number	10750184
Filing Date	2003-12-31
First Named Inventor	Richard L. Franklin
Art Unit	1648
Examiner Name	Zachariah Lucas
Attorney Docket Number	ARC-1001USCON1

## **U.S. PATENTS**

[Remove](#)

Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
/ZL/	1	5945102		1999-08-31	de Faire et al.	
/ZL/	2	5958406		1999-09-28	de Faire et al.	
/ZL/	3	6030612		2000-02-29	de Faire et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

[Add](#)

## **U.S. PATENT APPLICATION PUBLICATIONS**

[Remove](#)

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
/ZL/	1	20060134641		2006-06-22	Franklin	

If you wish to add additional U.S. Published Application citation information please click the Add button.

[Add](#)

## **FOREIGN PATENT DOCUMENTS**

[Remove](#)

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> i	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
/ZL/	1	0170115	EP		1985-07-09	Kao Corporation		<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		10750184
Filing Date		2003-12-31
First Named Inventor	Richard L. Franklin	
Art Unit	1648	
Examiner Name	Zachariah Lucas	
Attorney Docket Number	ARC-1001USCON1	

	<del>2</del>	<del>61068419</del>	<del>JP</del>	<del></del>	<del>1980-04-08</del>	<del>Kao Corporation</del>	<del></del>	<input type="checkbox"/>
/ZL/	3	9319732	WO		1993-10-14	Unilever PLC		<input type="checkbox"/>
	4	9324142	WO		1993-12-09	Phairson Medical AB		<input type="checkbox"/>
	5	9419005	WO		1994-09-01	Albert Scheller		<input type="checkbox"/>
	6	9507686	WO		1995-03-23	Unilever PLC		<input type="checkbox"/>
/ZL/	7	9507688	WO		1995-03-23	Unilever PLC		<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

Add

**NON-PATENT LITERATURE DOCUMENTS**

Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	<del>1</del>	<del>Athie, Medicina (Mex) 45(961):145-150 (1965) [Spanish].</del>	<input type="checkbox"/>
	2	Zhailiev DS, Khirurgiia (Mosk), (1):67-70 (1984) [Russian].	<input type="checkbox"/>
	3	Szeghy, Klin Monatsht Augeneilkd, 153(6):827-830 (1968) [German].	<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10750184
Filing Date	2003-12-31
First Named Inventor	Richard L. Franklin
Art Unit	1648
Examiner Name	Zachariah Lucas
Attorney Docket Number	ARC-1001USCON1

/ZL/	4	Rathgeber WF, S. Afr. Med. J., (45(7):181-183 (1971) [English].	<input type="checkbox"/>
/ZL/	5	Coblentz, J. Am. Geriatr Soc., 16(9):1039-1046 (1968) [English].	<input type="checkbox"/>
	6	<del>V.N. Glozman, (10):57-59 (1990) [Russian].</del>	<input type="checkbox"/>
	7	<del>T.K. Chuchnova, (10):52-55 (1990) [Russian].</del>	<input type="checkbox"/>
	8	Grant et al., Amino Acid Sequence of a Collageneolytic Protease from the Hepatopancreas of the Fiddler Crab, Uca Pugilator, Biochemistry, 19:4653-4659 (1980).	<input type="checkbox"/>
/ZL/	9	Grant and Eisen, Substrate Specificity of the Collagenolytic Serine Protease from Uca Pugilator: Studies with Noncollagegenous Substrates, Biochemistry, 19:6089-6095 (1980).	<input type="checkbox"/>
/ZL/	10	Grant et al., Collagenolytic Protease from Fiddler Crab (Uca Pugilator), Methods in Enzymology, 80:722-734 (1980).	<input type="checkbox"/>
	11	<del>Welgus et al., Substrate Specificity of the Collagenolytic Serine Protease from Uca Pugilator: Studies with Collagegenous Substrates, Biochemistry, 21:5183-5189 (1982).</del>	<input type="checkbox"/>
/ZL/	12	Grant et al., A Collagenolytic Serine Protease with Trypsin-Like Specificity from the Fiddler Crab Uca Pugilator, Biochemistry, 22:354-358 (1983).	<input type="checkbox"/>
/ZL/	13	Welgus and Grant, Degradation of Collagen Substrates by a Trypsin-Like Serine Protease from the Fiddler Crab Uca Pugilator, Biochemistry, 22:2228-2233 (1983).	<input type="checkbox"/>
/ZL/	14	Al-Mohanna et al., Mitotic E- and Secretory F-Cells in the Hepatopancreas of the Shrimp Penaeus Semisulcatus (Crustacea: Decapoda), J. Mar. Biol. Ass. U.K., 65:901-910 (1985).	<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10750184
Filing Date	2003-12-31
First Named Inventor	Richard L. Franklin
Art Unit	1648
Examiner Name	Zachariah Lucas
Attorney Docket Number	ARC-1001USCON1

/ZL/	15	Lipman and Pearson, Rapid and Sensitive Protein Similarity Searches, Science, 227:1435-1441 (Mar. 22, 1985).	<input type="checkbox"/>
	16	Gudmundsodottir et al., Isolation and Characterization of cDNAs from Atlantic Cod Encoding Two Different Forms of Trypsinogen, Eur. J. Biochem., 217, 1091-1097 (1993).	<input type="checkbox"/>
	17	Lu et al., The Midgut Trypsins of Shrimp (Penaeus Monodon), Biol. Chem. Hoppe-Seyler, 371:851-859 (Sep. 1990).	<input type="checkbox"/>
	18	Turkiewicz et al., Collagenolytic Serine Proteinase from Euphausia Superba Dana (Antarctic Krill), Comp. Biochem. Physiol., 99B:359-371 (1991).	<input type="checkbox"/>
	19	Tsai et al., The Midgut Chymotrypsins of Shrimps (Penaeus Monodon, Penaeus Japonicus and Penaeus Penicillatus) Biochimica et Biophysica Acta, 1080:59-67 (1991).	<input type="checkbox"/>
	20	Wormhoudt et al., Purification, Biochemical Characterization and N-Terminal Sequence of a Serine-Protease with Chymotryptic and Collagenolytic Activities in a Tropical Shrimp, Penaeus Vannamei (Crustacea, Decapoda), Comp. Biochem. Physiol., 103B(3):675-680 (1992).	<input type="checkbox"/>
	21	Sellos and Wormhoudt, Molecular Cloning of a cDNA that Encodes a Serine Protease with Chymotryptic and Collagenolytic Activities in the Hepatopancreas of the Shrimp Penaeus Vanameii (Crustacea, Decapoda), FEBS, 309 (3):219-224 (Sep. 1992).	<input type="checkbox"/>
	22	Klimova et al., The Isolation and Properties of Collagenolytic Proteases from Crab Hepatopancreas, Biochemical and Biophysical Research Communications, 166(3):1411-1420 (Feb. 1990).	<input type="checkbox"/>
/ZL/	23	Tsu et al., The Substrate Specificity of Uca Pugilator Collagenolytic Serine Protease 1 Correlates with the Bovine Type I Collagen Cleavage Sites, The Journal of Biochemical Chemistry, 269(30):19565-19572 (1994).	<input type="checkbox"/>
	24	<del>B. Johansson et al., Purification and Identification of Carboxy-Peptidase A and B from Antarctic Krill (Euphausia Superba), Biol. Chem. Hoppe Sryler, 367:366, Abstract 06.03.56 (1986).</del>	<input type="checkbox"/>
/ZL/	25	A. Bucht et al., Immunological Characterization of Three Highly Purified Trypsin-Like Enzymes from Antarctic Krill (Euphausia Superba), Biol. Chem. Hoppe Sryler, 367:366, Abstract 06.03.55 (1986).	<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10750184
Filing Date	2003-12-31
First Named Inventor	Richard L. Franklin
Art Unit	1648
Examiner Name	Zachariah Lucas
Attorney Docket Number	ARC-1001USCON1

/ZL/	26	Turkiewicz et al., Purification and Characterization of a Proteinase from Euphausia Superba Dana (Antarctic Krill), Acta Biochimica Polonica, 33(2):87-89 (1986).	<input type="checkbox"/>
/ZL/	27	Chen et al., Purification and Properties of Trypsin-Like Enzymes and a Carboxypeptidase A From Euphausia Superba, Journal of Food Biochemistry, 2:349-366 (1978).	<input type="checkbox"/>
/ZL/	28	Kimoto et al., Purification and Characterization of Serine Proteinases from Euphasia Superba, Agric. Biol. Chem., 47 (3):529-534 (1983).	<input type="checkbox"/>
	<del>29</del>	<del>Kimoto et al., Purification and Characterization of Chymotrypsin-Like Proteinase from Euphausia Superba, Agric. Biol. Chem., 49(6):1599-1603 (1985).</del>	<input type="checkbox"/>
/ZL/	30	Knut Kr. Osnes et al., On the Purification and Characterization of Three Anionic, Serine-Type Peptide Hydrolases from Antarctic Krill, Euphausia Superba, Comp. Biochem. Physiol., 82B(4):607-619 (1995).	<input type="checkbox"/>
/ZL/	31	Knut Kr. Osnes et al., On the Purification and Characterization of Exopeptidases from Antarctic Krill, Euphausia Superba, Comp. Biochem. Physiol., 83B(2):445-458 (1986).	<input type="checkbox"/>
/ZL/	32	Knut Kr. Osnes et al., Hydrolysis of Proteins by Peptide Hydrolases of Antarctic Krill, Euphausia Superba, Comp. Biochem. Physiol., 83B(4):801-805, (1986).	<input type="checkbox"/>
/ZL/	33	Knut Kr. Osnes et al., Peptide Hydrolases of Antarctic Krill, Euphausia Superba, Comp. Biochem. Physiol, 82B (4):599-606, (1985).	<input type="checkbox"/>
/ZL/	34	Olav Seather et al., Proteolysis Post Mortem in North Atlantic Krill, Comp. Biochem. Physical, 88B(1):165-176 (1987).	<input type="checkbox"/>
	<del>35</del>	<del>Dialog Search relating to enzyme based therapeutics.</del>	<input type="checkbox"/>
/ZL/	36	J. Melrose et al., Evaluation of Digestive Proteinases from the Antarctic Krill Euphausia Superba, as Potential Chemonucleolytic Agents, Arch Orthop Trauma Surg., 114:145-152 (1995).	<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		10750184
Filing Date		2003-12-31
First Named Inventor	Richard L. Franklin	
Art Unit	1648	
Examiner Name	Zachariah Lucas	
Attorney Docket Number	ARC-1001USCON1	

/ZL/	37	Y. Sakharov, Potent Debriding Ability of Collagenolytic Protease Isolated from the Hepatopancreas of the King Crab Paralithodes Camtschatica, Arch Dermatol Res., 285:32-35 (1993).	<input type="checkbox"/>
	38	Arthur Z. Eisen, A Collagenolytic Protease from the Hepatopancreas of the Fiddler Crab, UCA Pugilator, Purification and Properties, Biochemistry, 12(9):1814-1822 (1973).	<input type="checkbox"/>
	39	Asuncion Olalla et la., Purification and Properties of Three Proteases from the Larvae of the Brine Shrimp Artemia Salina, Biochimica et Biophysica Acta, 523:181-190 (1978).	<input type="checkbox"/>
	40	Spindler et al., Partial Characterization of Chitin Degrading Enzymes from Two Euphausiids, Euphausia Superba, and Meganyctiphanes Norvegica, Polar Biology, 9:115-122 (1988).	<input type="checkbox"/>
	41	Karlstam and Ljunglof, Detection and Partial Purification of a Hyaluronic Acid-Degrading Enzyme from Antarctic Krill (Euphausia Superba, ), Biol. Chem. Hoppe Seyler, 367:339 (1986).	<input type="checkbox"/>
V /ZL/	42	Kimoto et al., Acid Proteinases from Antarctic Krill, Euphausia Superba: Partial Purification and Some Properties, Journal of Food Science, 46:1881-1884 (1981).	<input type="checkbox"/>
	43	Kraft and Falkenberg, Biol. Chem. Hoppe Seyler, 353:1540-1541 (1972).	<input type="checkbox"/>
	44	Anheller et al., Biochemical and Biological Profile of a New Enzyme Preparation from Antarctic Krill (E. Superba) Suitable for Debridement of Ulcerative Lesions, Archives of Dermatology Research, 281:105-110 (1989).	<input type="checkbox"/>
/ZL/	45	Sakharov et al., Purification and Characterization of Two Serine Collagenolytic Proteases from Crab Paralithodes Camtschatica, Comp. Biochem. Physiol., 108B:561-568 (1994).	<input type="checkbox"/>
/ZL/	46	Gates et al., Isolation of Comparative Properties of Shrimp Trypsin, Shrimp Trypsin, 8(11):4483-4489 (1969).	<input type="checkbox"/>
	47	<del>Dialog Search relating to cysteine protease.</del>	<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		10750184
Filing Date		2003-12-31
First Named Inventor	Richard L. Franklin	
Art Unit	1648	
Examiner Name	Zachariah Lucas	
Attorney Docket Number	ARC-1001USCON1	

48	<del>Von P. Billigmann, Fortschrr Med., 113(4):43-48 (1995) [German].</del>	<input type="checkbox"/>
49	<del>Theodor Nasemann et al., Hautarz, 18(1):31-35 (1967) [German].</del>	<input type="checkbox"/>
50	<del>V. Mazza, Folia Med., 52(9):565-578 (1969) (Napoli).</del>	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

**EXAMINER SIGNATURE**

Examiner Signature	/Zachariah Lucas/	Date Considered	01/15/2008
--------------------	-------------------	-----------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** ( Not for submission under 37 CFR 1.99)

Application Number	10750184
Filing Date	2003-12-31
First Named Inventor	Richard L. Franklin
Art Unit	1648
Examiner Name	Zachariah Lucas
Attorney Docket Number	ARC-1001USCON1

## **U.S. PATENTS**

[Remove](#)

Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
/ZL/	1	4677069		1987-06-30	Chen et al.	
	2	4801451		1989-01-31	Hellgren et al.	
	3	4963491		1990-10-16	Hellgren et al.	
	4	5134119		1992-07-28	Lezdey John et al.	
/ZL/	5	5439935		1995-08-08	Rawlings et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

[Add](#)

## **U.S. PATENT APPLICATION PUBLICATIONS**

[Remove](#)

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button.

[Add](#)

## **FOREIGN PATENT DOCUMENTS**

[Remove](#)



**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		10750184
Filing Date		2003-12-31
First Named Inventor	Richard L. Franklin	
Art Unit	1648	
Examiner Name	Zachariah Lucas	
Attorney Docket Number	ARC-1001USCON1	

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	Berenshtein, Antibiotiki, 23(11):1002-1005 (1978) [German].	<input type="checkbox"/>
	2	Daniushchenkova, Antibiotiki, 23(4):330-333 (1978) [German].	<input type="checkbox"/>
	3	C. D'Arrigo, Minerva Medica, 66(87):4327-4344 (1969) [Italian].	<input type="checkbox"/>
	4	Poul Kjer, Nordisk Medicin, 75(14):390-391 (1966).	<input type="checkbox"/>
	5	Gastshchev, Sovetskaia Meditsina, (9):52-56 (1980) [German].	<input type="checkbox"/>
	6	Gotishchev, Sovetskaia Meditsina, (5):80-83 (1978) [German].	<input type="checkbox"/>
	7	DiMarco, Clin Pediatr, (Bologna), 52(1):34-45 (1970) [Italian].	<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		10750184
Filing Date		2003-12-31
First Named Inventor	Richard L. Franklin	
Art Unit	1648	
Examiner Name	Zachariah Lucas	
Attorney Docket Number	ARC-1001USCON1	

	8	<del>Tokuda, Nippon Ganka Kyo, 19(10):993-998 (1968) [Japanese].</del>	<input type="checkbox"/>
/ZL/	9	Jacobs, J Am Podiatry Assoc., 55(11):743-746 (1965) [English].	<input type="checkbox"/>
/ZL/	10	Goodfriend, J Am Podiatry Assoc., 55(9):667-669 (1965) [English].	<input type="checkbox"/>
	11	<del>Chudakov, Kirurgii (Mosk), 49(2):87-91 (1973) [Russian].</del>	<input type="checkbox"/>
	12	<del>Geller, Khirurgii (Mosk), 49(2):64-65 (1973) [Russian].</del>	<input type="checkbox"/>
	13	<del>Demianiuk, Klin Khir, 8:56-60 (1972) [Russian].</del>	<input type="checkbox"/>
	14	<del>Grigorian, Klin Khir, 9:1-4 (1971) [Russian].</del>	<input type="checkbox"/>
	15	<del>Bar, Lille Med., 15(5):827-847 (1970) [French].</del>	<input type="checkbox"/>
	16	<del>Riffat, Lyon Med., 226(13):103-106 (1971) [French].</del>	<input type="checkbox"/>
	17	<del>Gacon, Lyon Med., 222(43):997-1000 (1969) [French].</del>	<input type="checkbox"/>
	18	<del>Bazerque, Medicina (B. Aires), 32(4):357-362 (1972) [Spanish].</del>	<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10750184
Filing Date	2003-12-31
First Named Inventor	Richard L. Franklin
Art Unit	1648
Examiner Name	Zachariah Lucas
Attorney Docket Number	ARC-1001USCON1

19	Gordino Fernandez, Medicina (Mex), 45(973):490-493 (1965) [Spanish].	<input type="checkbox"/>
20	Lopez Reyes, Medicina (Mex), 45(964):221-223 (1965) [Spanish].	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

**EXAMINER SIGNATURE**

Examiner Signature	/Zachariah Lucas/	Date Considered	01/15/2008
--------------------	-------------------	-----------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.